

PATENT
Attorney Docket No. 99-432
Application Serial No. 09/546,052

IN THE CLAIMS:

The following is a complete listing of the claims, and replaces all earlier versions and listings.

- B1
1. (currently amended) A router for a mobile radio network that includes a plurality of routers, said router comprising:
- a memory storing a routing table;
 - a receiver for receiving link state information from the mobile network; and
 - a processor for (i) determining, responsive to the received link state information forwarded to the router, a status of connections in the mobile network, (ii) generating network topology information based on the determined connection status information, (iii) placing the generated network topology information in said routing table, and (iv) transmitting the network topology information in the routing table to at least one other router in the mobile network.
2. (currently amended) A router according to Claim 1, wherein the processor transmits the network topology information to the at least one other router in the mobile network at a predetermined cycle.

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3. (original) A router according to Claim 1, further comprising a transmitter for transmitting a message including the network topology information retrieved from said routing table.

4. (currently amended) A method of distributing network topology information in a mobile radio network that includes a plurality of routers comprising the steps of:

receiving link state information of the mobile network that is forwarded to each router in the mobile network;

determining connections of devices in the mobile network in the receiving router responsive to the received link state information forwarded to the receiving router;

collecting the determined device connection information to generate network topology information in the receiving router;

placing the generated network topology information in a routing table of the receiving router; and

retrieving the network topology information from the routing table.

5. (original) A method according to Claim 4, wherein the network topology information is generated periodically.

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6. (original) A method according to Claim 4, further comprising the step of transmitting a message by the receiving router including the network topology information retrieved from the routing table.

7. (currently amended) A method according to Claim 4, wherein the link state information is transmitted to the plurality of routers in the mobile network at predetermined times.

8. (currently amended) A method according to Claim 4, wherein the link state information is forwarded to the plurality of routers in the mobile network periodically.

9. (currently amended) A routing system in a mobile radio network having plural routers, comprising:

a plurality of routers in the mobile network each including:

a receiver for receiving link state information from the mobile network in a message issued to the plurality of routers; and

a processor in each router, responsive to the received link state information, for (i) determining router connection information in the mobile network, (ii)

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collecting the determined router connection information, (iii) generating network topology information from the collected router connection information, (iv) storing the generated network topology information in a routing table, and (v) retrieving the network topology information in the routing table and forming it into a link state message to be broadcast to at least one other router in the mobile network.

10. (original) A routing system according to Claim 9, wherein each processor periodically generates the network topology information.

11. (~~currently~~ amended) A routing system according to Claim 9, further comprising a transmitter in each router in the mobile network for transmitting the link state message including the network topology information retrieved from the routing table.

12. (~~currently~~ amended) A routing system according to Claim 11, wherein the transmitter transmits the link state information message to a plurality of routers in the mobile network at predetermined times.

13. (~~currently~~ amended) A routing system according to Claim 11, wherein the transmitter periodically broadcasts the link state information message to the plurality of routers in the mobile network.

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14. (currently amended) A routing system according to Claim 9, wherein the transmitter transmits the link state information message to the plurality of routers in the mobile network after its corresponding receiver receives the link state information from the mobile network.

15. (currently amended) Computer executable software code stored on a computer readable medium, the code for distributing network topology information in a mobile radio network that includes a plurality of routers, the code comprising:

code for receiving link state information of the mobile network that is forwarded to each router in the mobile network;

code for determining connections of devices in the mobile network in the receiving router responsive to the received link state information forwarded to the receiving router;

code for collecting the determined device connection information to generate network topology information in the receiving router;

code for placing the generated network topology information in a routing table of the receiving router; and

code for retrieving the network topology information from the routing table.

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16. ~~(currently amended)~~ A router for a mobile network radio network that includes a plurality of other routers, said router comprising:

- means for storing a routing table;
- means for receiving link state information from the mobile network;
- means, responsive to the received link state information forwarded to the router, for determining a status of connections in the mobile network;
- means for generating network topology information based on the determined connection status information;
- means for placing the generated network topology information in said routing table; and
- means for transmitting the network topology information in the routing table to at least one other router in the mobile network.

17. ~~(currently amended)~~ A routing system in a mobile radio network having plural routers, comprising a plurality of routers, each router including:

- means for receiving link state information from the mobile network in a message issued to the plurality of routers in the mobile network;
- means for determining router connection information in the mobile network;

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means for collecting the determined router connection information;
means for generating network topology information from the
collected router connection information;
means for storing the generated network topology information in a
routing table; and
means for retrieving the network topology information in the routing
table and forming it into a link state message to be broadcast to at least one other router in
the mobile network.

18. (~~currently amended~~) A router according to Claim 1, wherein said
processor also, upon determining, responsive to the received link state information, that no
other router in the mobile network is currently accessible, performs control processing to
determine how often and when to attempt to gather and information relating to the network
topology.

19. (~~currently amended~~) A method according to Claim 4, further
comprising the step of, upon determining in said determining step that no other router in
the mobile network is currently accessible, performing control processing to determine
how often and when to attempt to gather and information relating to the network topology.

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20. (currently amended) A routing system according to Claim 9,
wherein each said processor also, upon determining, responsive to the received link state
information, that no other router in the mobile network is currently accessible, performs
control processing to determine how often and when to attempt to gather and information
relating to the network topology.
